



**FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA
FINAL EXAMINATION FOR MEDICAL DEGREES –August 2022
MEDICINE PAPER 1**

1st August 2022

(1.00 – 4.00pm) 3 hours

Index Number:

Instructions:

- 1. Write your index number in all the pages.**
- 2. Answer all questions.**
- 3. Write your answers in the space given after each part of the question.**
- 4. The space given is adequate for the expected answer.**
- 5. Normal values are given within brackets.**
- 6. Please return the question book at the end of the examination.**

1) Mr. T is diagnosed with ischemic heart disease for five years. He is awaiting Coronary Artery Bypass Grafting after the coronary angiogram revealed triple vessel disease. He has had a progressively worsening shortness of breath over the past one week. Today the breathlessness has increased to a point he is short of breath at rest and finds it difficult to lie down. Patient is anxious and restless.

A. What is the most likely diagnosis? (5 marks)

B. List **three (3)** other physical signs you will look for as supportive evidence for the diagnosis mentioned in A. (15marks)

C. list **three (3)** investigations that will be useful in the immediate management of this patient describing expected findings. (15 marks)

D. State **four (4)** immediate treatment measures that you would start on this patient.

(20 marks)

E. Patient makes a good recovery over the next few days with inward treatment. List **five (5)** medicines he should be prescribed to reduce the likelihood of readmission with the condition mentioned in A.

(25 marks)

F. In addition to taking medicines as prescribed, state **two (2)** other advices you would give this patient on discharge.

(20 marks)

2) A 70-year-old man presents with fever and productive cough for three days and several episodes of hemoptysis and pleuritic chest pain for two days.

On examination he is febrile, delirious and dyspnoeic. His respiratory rate is 32 cycles per minute and pulse rate is 120 per minute with a blood pressure of 85/55mmHg. Auscultation of lungs reveals coarse crepitations and bronchial breathing over the right mid and lower zones of the chest.

A. What is the complete clinical diagnosis? (10 marks)

B. List **four (4)** clinical features present in this patient which indicates adverse outcome of the condition mentioned in part A. (10 marks)

C. List **two (2)** life-threatening complications that could develop in this patient. (10 marks)

D. List **five (5)** investigations that you would request within the first 24 hours and highlight their relevance in the management. (30 marks)

E. Mention briefly the antimicrobial therapy you would immediately commence in this patient giving reasons for your choice (doses not required). (20 marks)

After an initial recovery, on the sixth day after admission, patient becomes gradually dyspnoeic with recurrence of high fever with chills and rigors. Examination reveals stony dullness and absent breath sounds over the right hemithorax.

F. What complication could explain this clinical picture? (10 marks)

G. What is the management of the complication mentioned in F? (10marks)

3) A 20-year-old medical student is admitted with fever, anorexia and vomiting for 5 days. She has no previous medical problems and is not on long-term medications. On examination, she is icteric, temperature 100 °F with a tender hepatomegaly of 3 cm.

Investigations:

Hb - 11g/dL (11.5-14.5)

WBC - 4.5×10^9 /L (4-11 $\times 10^9$)

Platelet count - 180×10^9 /L (150-450 $\times 10^9$)

Serum total bilirubin - 4.5mg/ dL (0.1 – 1,2)

SGPT 1200 IU/L (5- 42)

Urine bile – present

A. What is the most likely clinical diagnosis? (5 marks)

B. Give **three (3)** etiological agents which can cause above illness and state how you would confirm each three of them. (30 marks)

C. State briefly the initial management of this patient. (15 marks)

Three days later the patient is found to be drowsy, deeply icteric and has flapping tremors.

D. What complication is suspected according to the above findings. (10 marks)

E. Discuss briefly how you would manage the above complication. (30 marks)

F. List **three steps** that can be taken to prevent spread of a similar illness among close contacts. (10 marks)

4) A 45-year-old farmer presents with fever, headache and myalgia for four days and reduced urine output for one day.

Investigations on admission are given below.

Hb – 13.5g/dL (11.5-14.5)

WBC – $14.5 \times 10^9 /L$ ($4-11 \times 10^9$)

Platelets – $125 \times 10^9 /L$ ($150-450 \times 10^9$)

CRP – 124 mg/dL (<6mg/dL)

A. What is the most likely diagnosis? (10 marks)

B. List **five (5)** physical signs you would elicit in this patient to support the diagnosis mentioned in part A. (10 marks)

C. Mention **four (4)** additional investigations you would perform in this patient and explain the expected results. (20 mark)

5) A 28-year-old woman complains of lack of energy and interest, tiredness and recent weight gain for the last six months. She has been well previously apart from mild intermittent wheezing. She lives with her husband who is a carpenter and one child aged 6 years.

General examination shows BMI of 28 kg/m², normal mucosa, blood pressure 120/82 mmHg and pulse rate 58 per minute. Examination of precordium, respiratory system and abdomen is unremarkable.

A. What is the most likely diagnosis? (10 marks)

B. List **four (4)** other physical signs that you will look to support the diagnosis in A. (20 marks)

C. What investigation will you arrange to confirm the diagnosis? (10 marks)

D. List **three (3)** additional investigations you will consider in this patient and state briefly the reasons for performing them. (30 marks)

E. State briefly how you would start treatment and monitor this patient in the follow up visits. (30 marks)

6) A 54-year-old man is admitted with difficulty in speech and weakness of right side of the body on waking up in the morning at 6.00 a.m. He had gone to the toilet at 5.00 a.m. without any difficulty. He is on treatment for hypertension and diabetes mellitus and follow up is suboptimal.

On examination he is obese and has right sided flaccid hemiparesis with global aphasia. His blood pressure on admission is 230/120 mmHg.

A. What is the most likely diagnosis? (10 marks)

B. What is the most likely arterial territory involved? (10 marks)

C. List **three (3)** investigations you would request on admission that would help in the immediate management. (15 marks)

D. What therapeutic intervention is indicated immediately? (10 marks)

The results of the investigations you mentioned in C are normal. Therapeutic intervention done in D has given the desired outcome.

E. What specific intervention should be started now? (15 marks)

F. List **three (3)** other medications you would start on this patient. (15 marks)

G. List **two (2)** other non-pharmacological measures indicated for this patient to improve his disability. (10 marks)

H. List **three (3)** important advises you would give to this patient on discharge. (15 marks)

7) A 72-year-old woman presents with worsening shortness of breath and fatigue for one month. She has recently been treated for respiratory tract infection.

On examination, she is pale but not icteric and has multiple bruises on her skin. Her pulse rate is 88 beats per minute, blood pressure 120/80 mmHg with a soft ejection systolic murmur at base of the heart. Chest examination is normal.

Full Blood Count (FBC) on admission is given below.

Hb – 5.4 g/dL (11.5-14.5 g/dL)

MCV- 85 fL (78-100 fL)

MCHC- 33 g/dL (31-37 g/dL)

MCH- 30 pg (27-32 pg)

WBC- $16 \times 10^9/L$ ($4-11 \times 10^9$)

Platelets – $88 \times 10^9/L$ ($150 - 400 \times 10^9$)

A. What are the haematological abnormalities seen in this patient's full blood count?

(15 marks)

B. List **three (3)** possible causes for the haematological abnormalities seen in this patient.

(15 marks)

C. List **one (1)** supportive feature you would elicit either in the history or examination in support of each of the condition mentioned in B. (15 marks)

D. List **three (3)** investigations that would support to differentiate the **three (3)** conditions mentioned in B and state the expected findings in each of the condition. (30marks)

On the fifth day of her hospitalization, she develops high fever. On examination, her pulse rate is 120 per minute and blood pressure is 90/60 mmHg.

FBC shows Hb – 5.2g/dL, WBC- $0.8 \times 10^9/L$ with 30% neutrophils and platelet count $72 \times 10^9/L$.

E. What complication has she developed? (10 marks)

F. Outline **three (3)** steps in the immediate management of this patient. (15 marks)

8) A 65-year-old man presents with fever and dysuria for 5 days. Apart from the right renal angle tenderness, the rest of the examinations is normal. Following investigations are done at day 1 and day 5 of hospital admission. He complains of reduced urine output on day 5.

	Day 1	Day 5
Urine full report	RBC- 8/HPF Pus cells- field full Protein +	RBC- 4/HPF Pus cells- 10-15/HPF Protein +
Serum creatinine (0.8-1.1 mg/dL)	1.0 mg/dL	2.8 mg/dL
WBC (4-11 X 10 ⁹ /L)	12.5 X 10 ⁹ /L	8.9 X 10 ⁹ /L
Haemoglobin (11.5-15.5 g/dL)	12.5 g/dL	11.2 g/dL
Sodium (135-150 mmol/L)	149 mmol/L	145 mmol/L
Potassium (3.5-5.5 mmol/L)	4.5 mmol/L	5.5 mmol/L

A. What is the likely diagnosis for the reduced urine output considering the laboratory findings on day five? (10 marks)

B. Mention **three (3)** possible causes in this patient for the condition mentioned in A. (15 marks)

C. Write **one (1)** supportive feature either in the history or in examination for each of the cause mentioned in B. (20 marks)

D. Mention **four (4)** further investigations that you would order on day 5 and explain the reasons for your choice. (30 marks)

E. Discuss briefly the management of this patient on day 5. (25 marks)

